

AMENDMENTS TO THE SPECIFICATION

Please delete the second full paragraph on page 8 bridging page 9 in the specification, and replace with the following new one:

That peak intensity ratio could be an index to cation mixing. High values of the intensity ratio are thought to indicate a developed layer structure and a high crystallinity~~degree of crystal completion~~, while low values of the intensity ratio are thought to show a disordered layer structure caused by cation mixing {Ohzuku et al., *J. Electrochem. Soc.*, vol.140, No.7, pp.1862-1870 (1993)}. In case where X is smaller than 0.03, that peak intensity ratio tends to be low.

Please delete the first full paragraph on page 17 bridging page 18 in the specification, and replace with the following new one:

-The operating pH range in the coprecipitation step is preferably 7-10, more preferably 8-9. Values of pH lower than~~not higher than~~ 7 are undesirable because nickel carbonate and manganese carbonate dissolve. On the other hand, pH values higher than~~not lower than~~ 10 are undesirable because nickel hydroxide and manganese hydroxide separate out and this precipitate is susceptible to oxidation and unstable. The operating temperature is preferably kept in the range of 20-100°C, more preferably 40-60°C. In case where the operating temperature is lower than~~not higher than~~ 20°C, the growth of carbonate crystals becomes poor and it is difficult to obtain a carbonate of nickel and manganese which has a homogeneous crystalline phase. In case where the operating temperature is higher than~~not lower than~~ 100°C, the aqueous solution boils, making the coprecipitation operation difficult.

Please delete the forth full paragraph on page 20 in the specification, and replace with the following new one:

The ~~lithium-nickel-manganese~~lithium-manganese composite oxide powder of the invention can be advantageously used as the positive active material of a lithium ion secondary battery.

It is preferred that the ~~lithium-nickel-manganese~~lithium-manganese composite oxide produced be suitably disaggregated and classified.

Please delete the second full paragraph on page 31 in the specification, and replace with the following new one:

The X-ray powder diffraction pattern was subjected to pattern fitting on the assumption of C12/m1 (No. 12) of the monoclinic/~~rhombe~~ system according to the WPPD method developed by Toraya et al. (H. Toraya et al., *J. Appl. Cryst.*, 19, 440(1986)). As a result, the a-axis length, b-axis length, and c-axis length were found to be 4.993 angstroms, 8.600, and 5.044 angstroms, respectively, and $\alpha = \gamma = 90.00^\circ$ and $\beta = 109.41 \pm 10.94^\circ$. The BET specific surface area was $1.8 \text{ m}^2 \text{ g}^{-1}$.

Please delete the third full paragraph on page 32 bridging page 33 in the specification, and replace with the following new one:

In the X-ray powder diffractometry using a Cu-K α ray, the peak intensity ratio $I_{(002)}/I_{(13-3)}$ between the (002) plane and the (13-3) plane in terms of Miller indexes *hkl* on the assumption of belonging to C12/m1 (No. 12) of the monoclinic/~~rhombe~~ system was 1.78.

Please delete the first full paragraph on page 33 in the specification, and replace with the following new one:

The X-ray powder diffraction pattern was subjected to pattern fitting on the assumption of C12/m1 (No. 12) of the monoclinic/~~rhombic~~ system according to the WPPD method developed by Toraya et al. (H. Toraya et al., *J. Appl. Cryst.*, 19, 440(1986)). As a result, the a-axis length, b-axis length, and c-axis length were found to be 4.987 angstroms, 8.602, and 5.031 angstroms, respectively, and $\alpha = \gamma = 90.00^\circ$ and $\beta = 109.41 \pm 10.94^\circ$. The BET specific surface area was $1.6 \text{ m}^2\text{g}^{-1}$.

Please delete the first full paragraph on page 34 in the specification, and replace with the following new one:

In the X-ray powder diffractometry using a Cu-K α ray, the peak intensity ratio $I_{(002)}/I_{(13-3)}$ between the (002) plane and the (13-3) plane in terms of Miller indexes *hkl* on the assumption of belonging to C12/m1 (No. 12) of the monoclinic/~~rhombic~~ system was 1.93.

Please delete the second full paragraph on page 34 in the specification, and replace with the following new one:

The X-ray powder diffraction pattern was subjected to pattern fitting on the assumption of C12/m1 (No. 12) of the monoclinic/~~rhombic~~ system according to the WPPD method developed by Toraya et al. (H. Toraya et al., *J. Appl. Cryst.*, 19, 440(1986)). As a result, the a-axis length, b-axis length, and c-axis length were found to be 4.980 angstroms, 8.593, and 5.025 angstroms, respectively, and $\alpha = \gamma = 90.00^\circ$ and $\beta = 109.41 \pm 10.94^\circ$. The BET specific surface area was $1.1 \text{ m}^2\text{g}^{-1}$.

Please delete the second full paragraph on page 35 in the specification, and replace with the following new one:

The nickel-manganese oxide of the ilmenite structure and lithium hydroxide monohydrate were mixed together by means of an automatic mortar for 1 hour in such a proportion as to result in an Li/(Ni+Mn) atomic ratio of 1.36. The mixture obtained was burned at 1,000°C in an air stream for 20 hours to obtain a lithium-nickel-manganese~~lithium-sodium-nickel-manganese~~ composite oxide. As a result of ICP analysis for composition, this composite oxide was found to have the composition $\text{Li}[\text{Ni}_{0.45}\text{Mn}_{0.45}\text{Li}_{0.10}]\text{O}_2$ ($X=0.10$). The composite oxide gave the X-ray diffraction pattern shown in Fig. 1, indicating that the oxide had a layered rock salt structure of the α - NaFeO_2 type.

Please delete the first full paragraph on page 36 in the specification, and replace with the following new one:

In the X-ray powder diffractometry using a $\text{Cu-K}\alpha$ ray, the peak intensity ratio $I_{(002)}/I_{(13-3)}$ between the (002) plane and the (13-3) plane in terms of Miller indexes hkl on the assumption of belonging to C12/m1 (No. 12) of the monoclinic/~~rhombe~~ system was 1.61.

Please delete the second full paragraph on page 36 in the specification, and replace with the following new one:

The X-ray powder diffraction pattern was subjected to pattern fitting on the assumption of C12/m1 (No. 12) of the monoclinic/~~rhombe~~ system according to the WPPD method developed by Toraya et al. (H. Toraya et al., *J. Appl. Cryst.*, 19, 440(1986)). As a result, the a-axis length, b-axis length, and c-axis length were found to be 4.894 angstroms, 8.592, and 5.027 angstroms,

respectively, and $\alpha = \gamma = 90.00^\circ$ and $\beta = 109.41 \pm 10.94^\circ$. The BET specific surface area was $0.5 \text{ m}^2 \text{ g}^{-1}$.

Please delete the second full paragraph on page 37 in the specification, and replace with the following new one:

In the X-ray powder diffractometry using a Cu-K_α ray, the peak intensity ratio $I_{(002)}/I_{(13-3)}$ between the (002) plane and the (13-3) plane in terms of Miller indexes hkl on the assumption of belonging to C12/m1 (No. 12) of the monoclinic/~~rhombic~~ system was 1.61.

Please delete the third full paragraph on page 37 bridging page 38 in the specification, and replace with the following new one:

The X-ray powder diffraction pattern was subjected to pattern fitting on the assumption of C12/m1 (No. 12) of the monoclinic/~~rhombic~~ system according to the WPPD method developed by Toraya et al. (H. Toraya et al., *J. Appl. Cryst.*, 19, 440(1986)). As a result, the a-axis length, b-axis length, and c-axis length were found to be 4.990 angstroms, 8.600, and 5.041 angstroms, respectively, and $\alpha = \gamma = 90.00^\circ$ and $\beta = 109.41 \pm 10.94^\circ$. The BET specific surface area was $2.0 \text{ m}^2 \text{ g}^{-1}$.